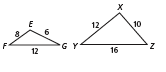
**Warm-up**

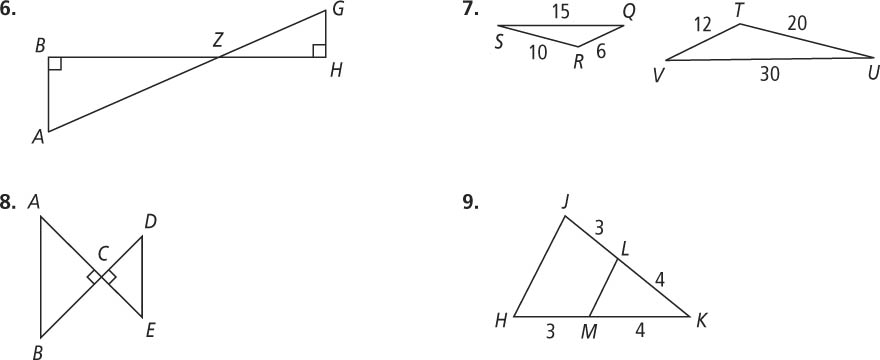
For each problem, determine if the following two polygons are similar. If they are, determine the scale factor. Complete the following steps for each:

Step 1: Are all corresponding angles congruent?

Step 2: Are the ratios of corresponding sides all the same?

Step 3 (if necessary): What is the scale factor?

1. 2.

****

**Notes**

Recall: If two polygons are similar, than the corresponding angles are congruent and the ***lengths of corresponding sides are proportional***.

Determining a missing side length if two polygons are similar

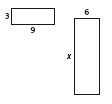
Step 1: Write a proportion involving corresponding sides of similar polygons including the unknown side length.

Step 2: Cross multiply.

Step 3: Solve the equations for unknown side length.

I Do

We Do

1. Solve for the missing side lengths if the two polygons are similar

.

Step 1: Write the proportion involving x.

Step 2: Cross multiply

Step 3: Solve for x.

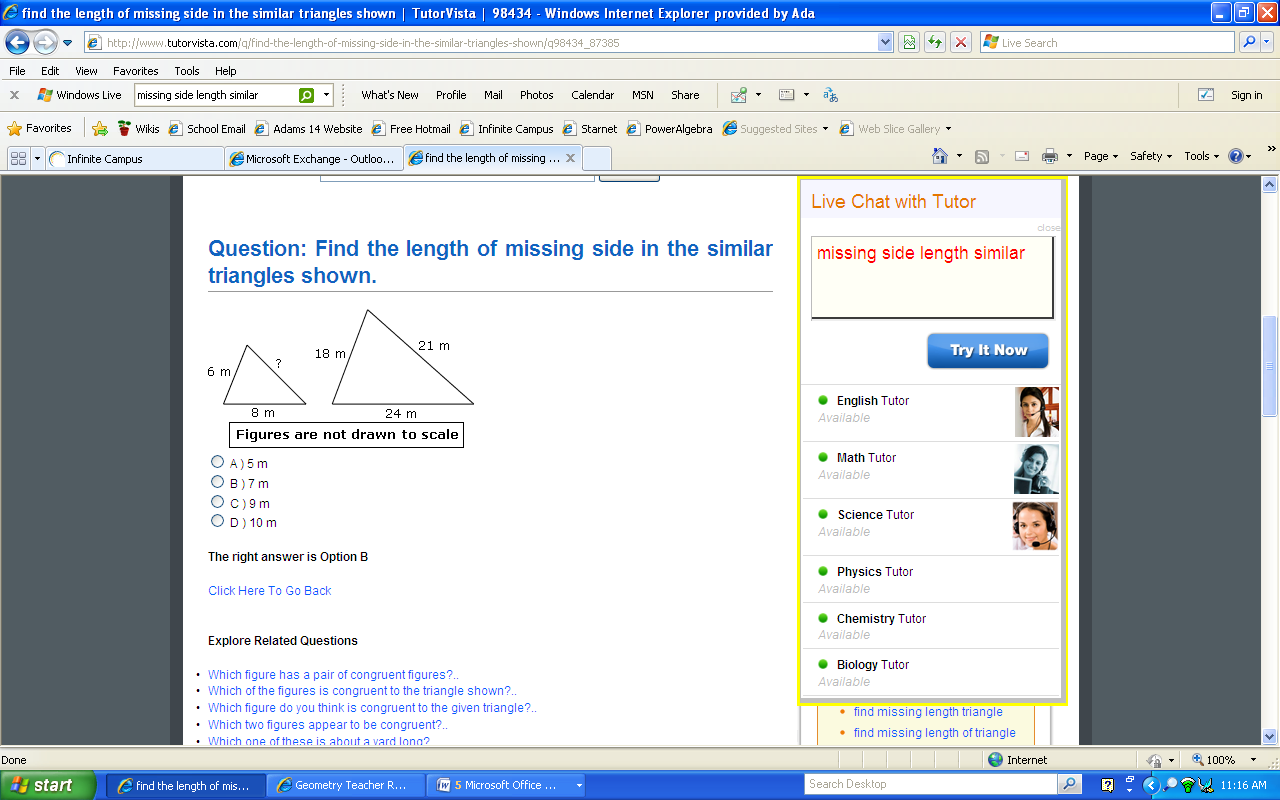
2. Solve for the missing side lengths if the two polygons are similar.

Step 1: Write the proportion involving x.

Step 2: Cross multiply

Step 3: Solve for x.

3. Solve for the missing side lengths if the two polygons are similar.

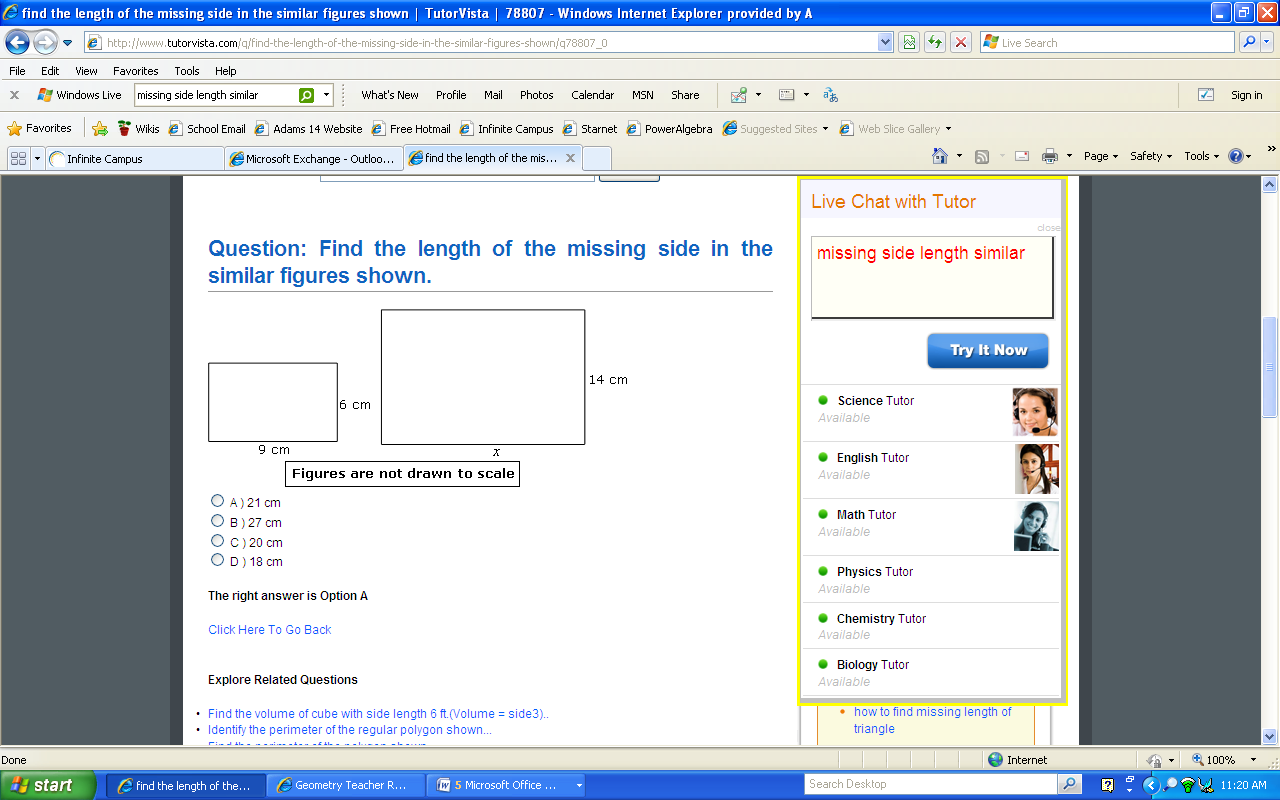


Step 1: Write the proportion involving x.

Step 2: Cross multiply

Step 3: Solve for x.

4. Solve for the missing side lengths if the two polygons are similar.



Step 1: Write the proportion involving x.

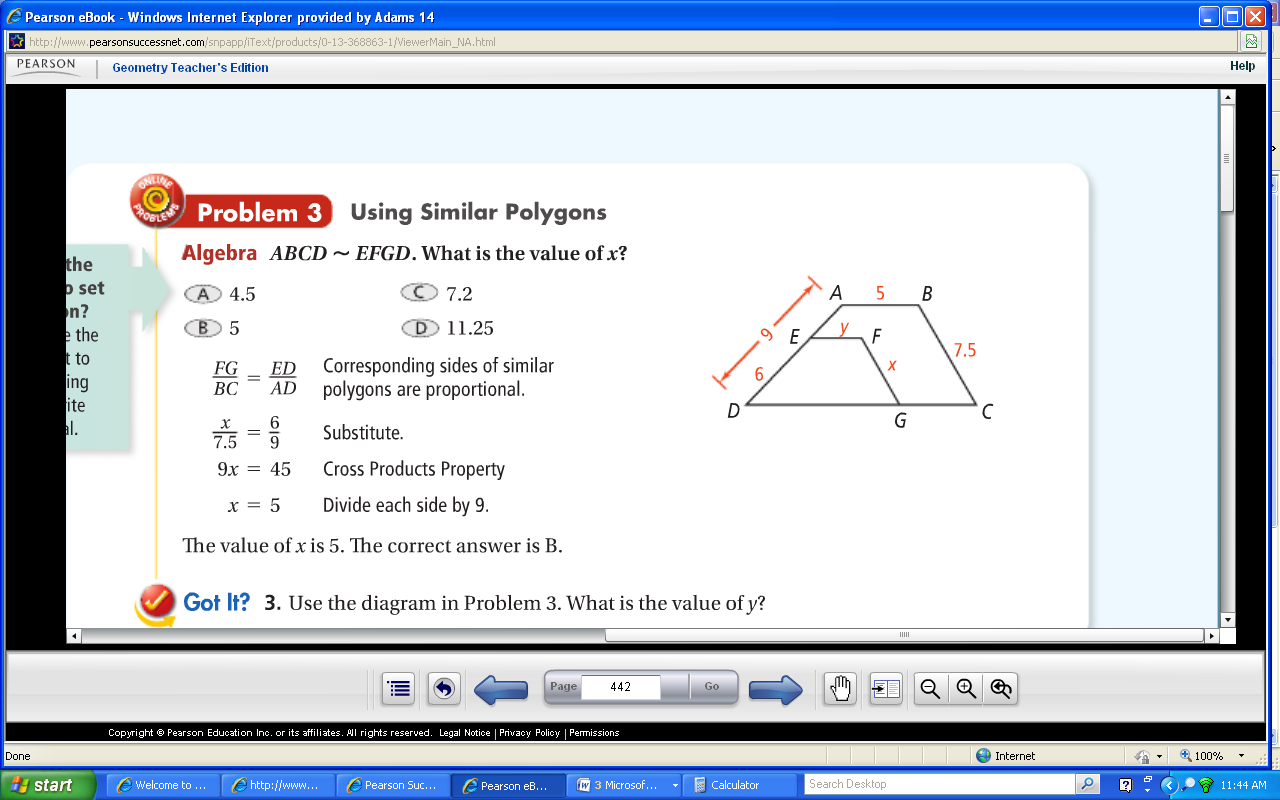
Step 2: Cross multiply

Step 3: Solve for x.

I Do

We Do

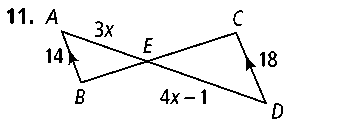
5. Solve for the missing side lengths if the two polygons are similar



Step 1: Write the proportion involving x.

Step 2: Cross multiply

Step 3: Solve for x.

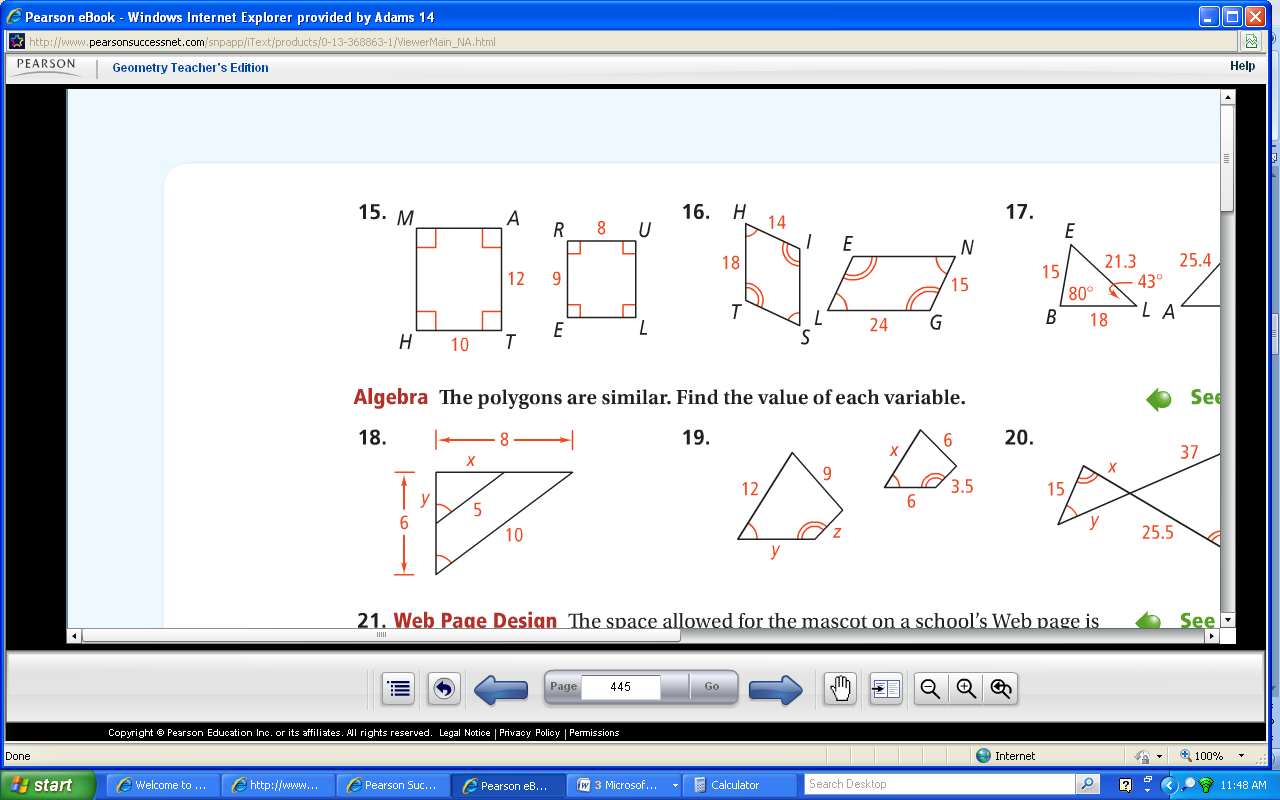
6. Solve for the missing side lengths if the two polygons are similar.

Step 1: Write the proportion involving x.

Step 2: Cross multiply

Step 3: Solve for x.

7. Solve for the missing side lengths if the two polygons are similar.

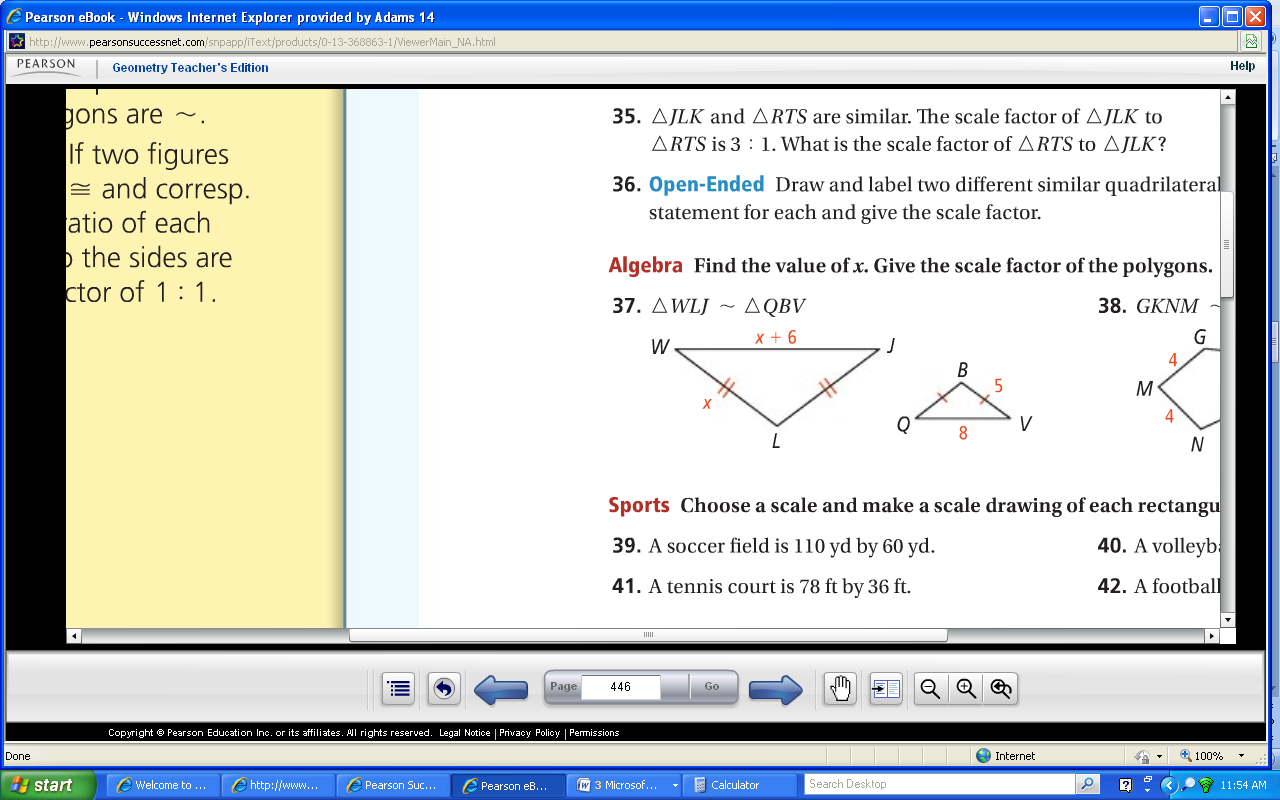


Step 1: Write the proportion involving x and then y.

Step 2: Cross multiply

Step 3: Solve for x.

8. Solve for the missing side lengths if the two polygons are similar.



Step 1: Write the proportion involving x.

Step 2: Cross multiply

Step 3: Solve for x.

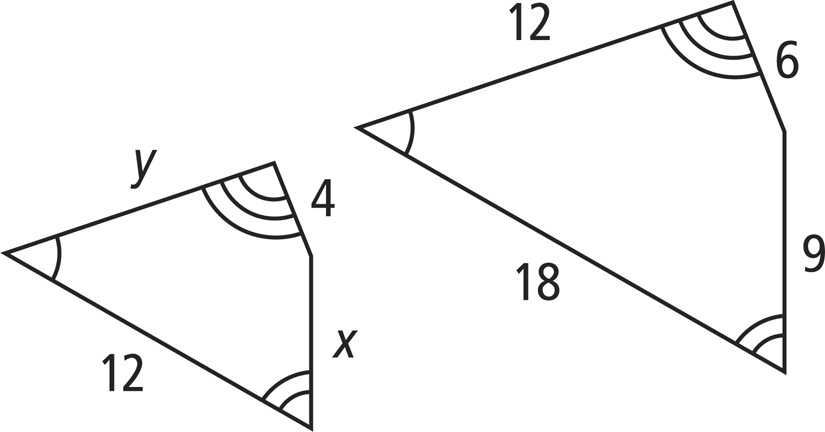
For each problem, determine the missing side length(s) if the two figures are similar.

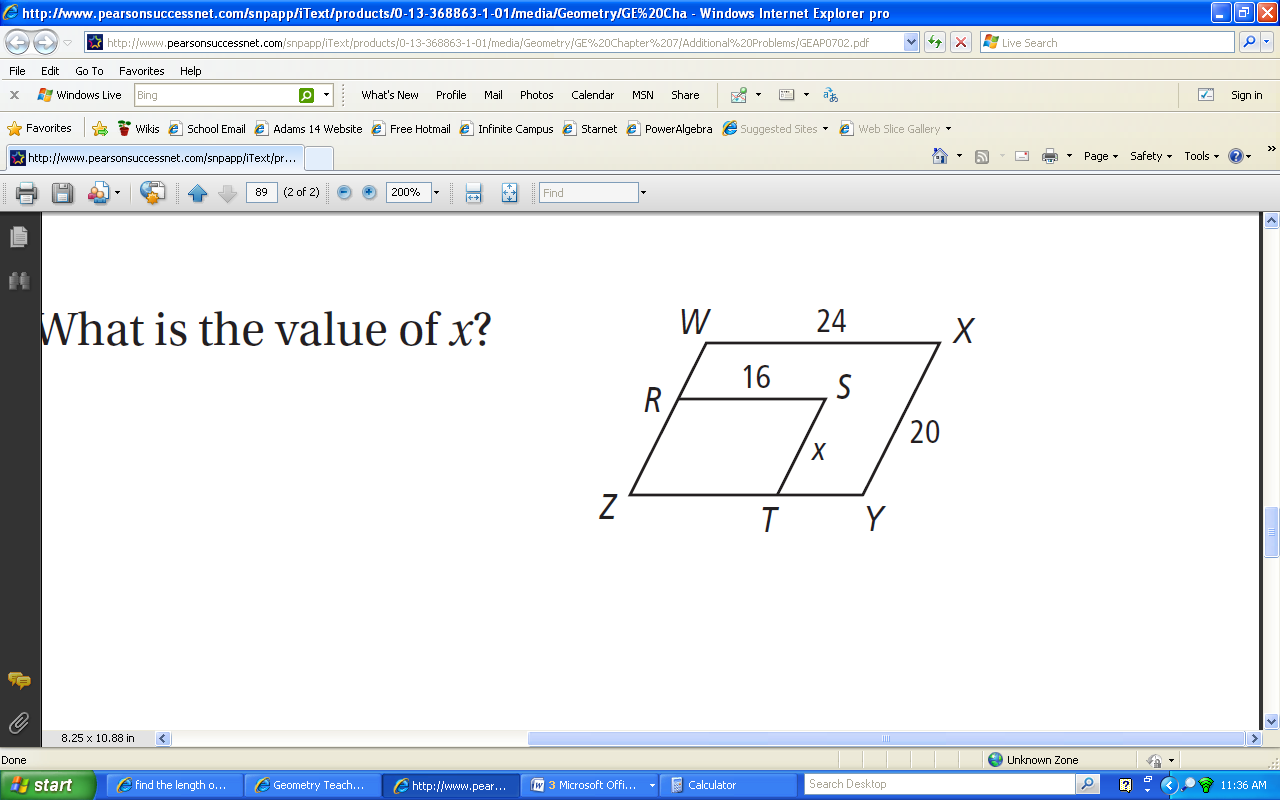
Complete the following steps for each unknown variable:

Step 1: Set up a proportion that involves the unknown side length.

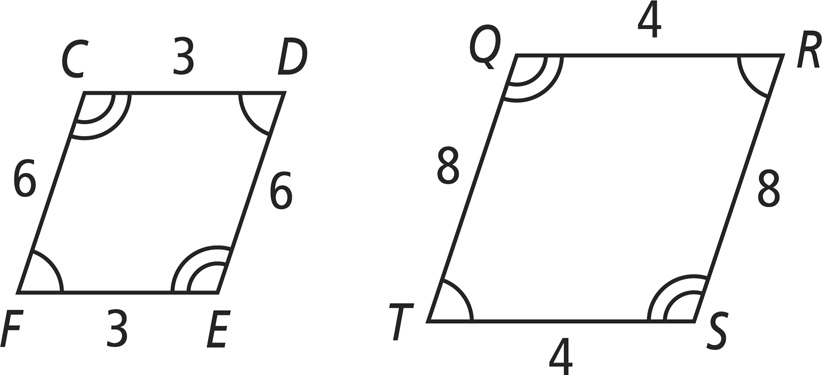
Step 2: Cross multiply.

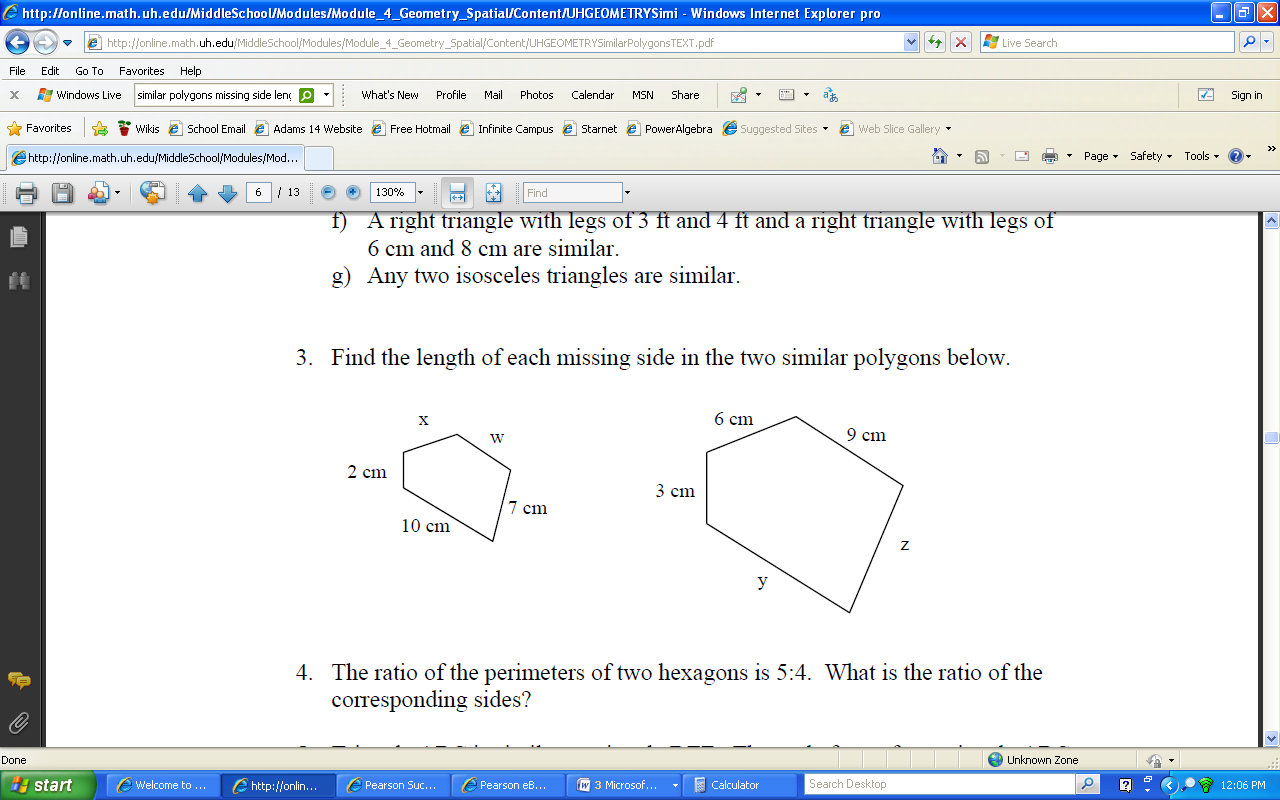
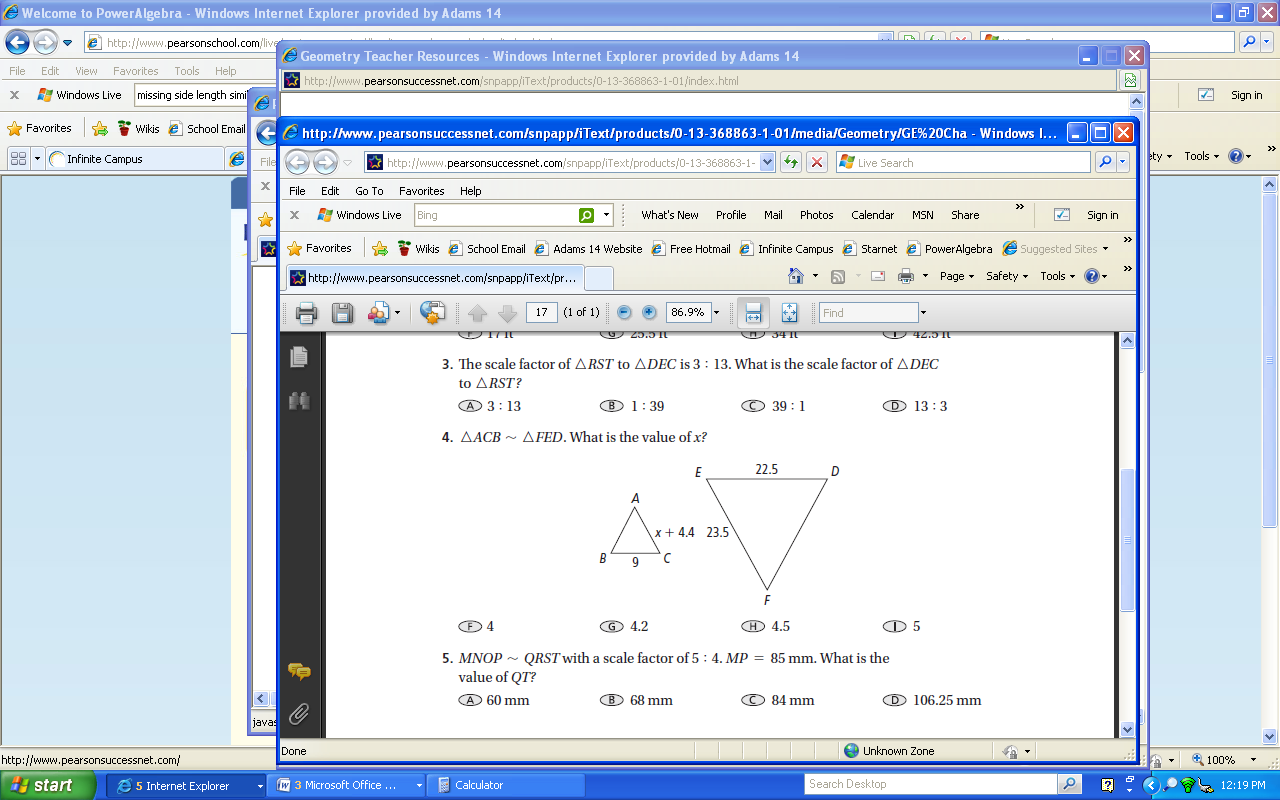
Step 3: Solve for the unknown side length.

1. 2.

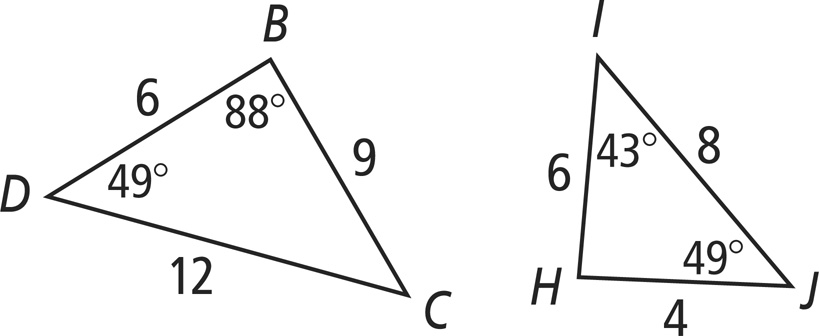


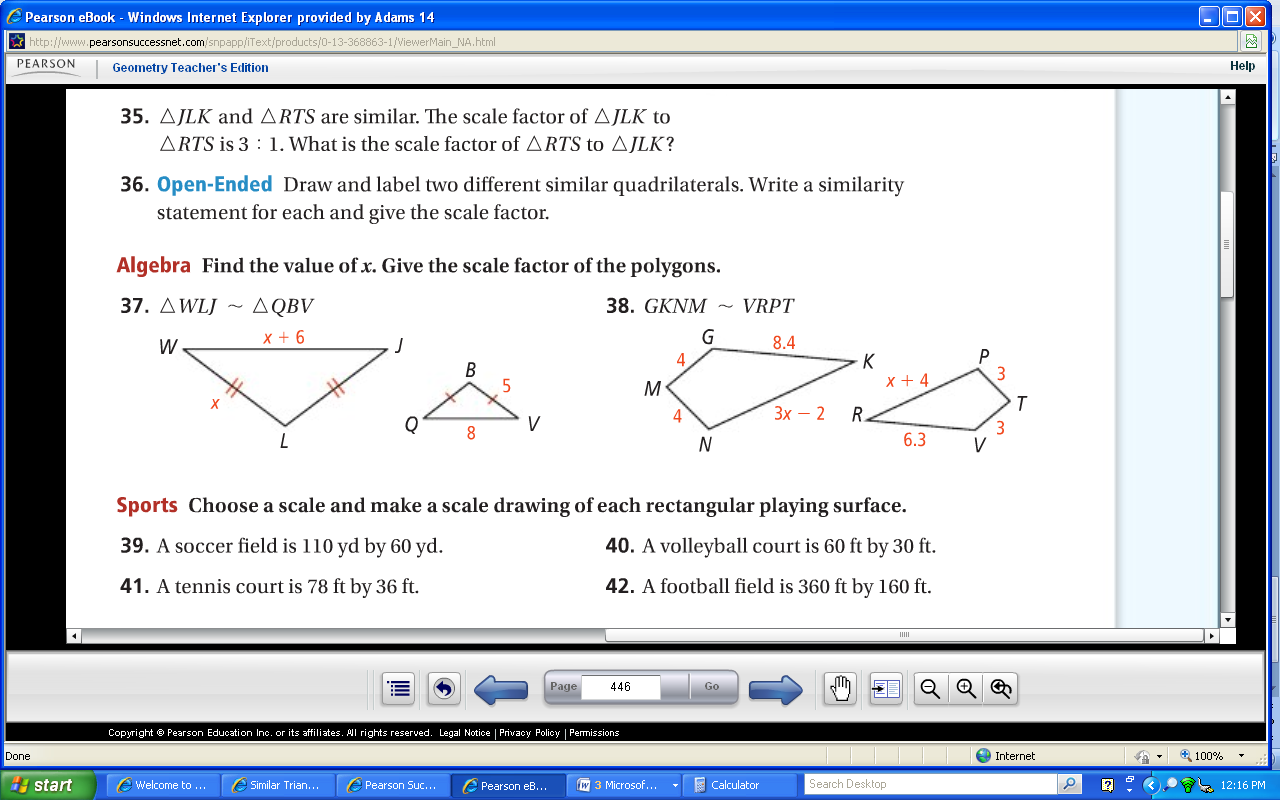
x = 6, y = 8

3.  4.

x = 4 cm, y = 15 cm, z = 10.5cm

5. 6.



27

1

9

x